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|-----------------|-------------|----------------------|---------------------|------------------|
| 09/730,687      | 12/05/2000  | David J. Gesbert     | GW1-105/CIP         | 9217             |

7590 12/09/2003

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| EXAMINER |
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MOISE, EMMANUEL LIONEL

|          |              |
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| ART UNIT | PAPER NUMBER |
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2133

DATE MAILED: 12/09/2003

11

Please find below and/or attached an Office communication concerning this application or proceeding.

OK

# Office Action Summary

Application No.  
09/730,687

Applicant(s)  
Gesbert et al.

Examiner  
Emmanuel L. Moise

Art Unit  
2133



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Sep 23, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 18-20 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 18-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other:

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***Response to Amendment***

1. This office action is responsive to applicant's correspondence filed on September 23, 2003. Claims 1-16 and 18-20 are presented for examination.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Applicant's arguments regarding the double patenting rejection of claims 1-16 and 18-20 have been fully considered but they are not persuasive.
4. Applicant's arguments with respect to the 102 (e) rejection of claims 1-16 and 18-20 have been considered but are moot in view of the new ground(s) of rejection.

***Double Patenting***

5. Claims 1-6 and 18-20 remain provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-22 of copending Application No. 09/665,149. See paragraphs 4 and 5 of the previous Office action.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

6. Applicant basically argues that the claims of pending application are directed to different patentable subject matter requiring different processes directed to produce different results that may utilize different parametric input, and work in a separate range of potential solutions.

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The Examiner disagrees. Although the conflicting claims are not identical, they are not patentably distinct from each other because they relate to communication systems/methods that support multiple modulation and channel coding schemes. As mentioned in the previous Office action, it would have been obvious to a person of ordinary skill in the art to implement the claimed invention based on the claims of the copending application because the claims of the copending application as well of the claims of the present application teach to select a channel coding scheme based on channel characteristics which are estimated in terms of variances and mean values.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-16 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olofsson et al. (U.S. Patent No. 6,167,031, hereinafter "Olofsson").

As per claim 1, Olofsson substantially discloses the claimed method of constructing a lookup table of modes for encoding data for transmission in a wireless communication channel from a transmit unit to a receive unit, said method comprising: selecting ... (column 6, lines 50-51); determining a first-order statistical parameter of said at least one quality parameter (the first-order statistical parameter is a mean of a long term quality parameter, see column 6, lines 51-52); determining a second-order statistical parameter of said at least one quality parameter (the second-order statistical parameter is a variance of a short term quality parameter, see also column 6, lines 51-52). Contrary to applicant's arguments Olofsson does disclose that the characteristic measure is calculated based on both the mean value and the variance (see column 4, lines 50-52). Further, in column 7, lines 5-10, Olofsson teaches that the system 10 calculates both the mean value and the variances of the link quality measures.

It is noted that Olofsson does not explicitly disclose the use of a lookup table to arrange the different modes based on the first-order statistical parameter (mean value) and based on said second-order statistical parameter (variance). Olofsson, however, in column 11, lines 55-62, suggests the use of a lookup table for that purpose. Olofsson, in fact, discloses that the mapping function can be implemented using a table that may include results based on actual

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measurements during the normal operation of the system 10. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Olofsson's system based on the above suggestion because doing so would have sped up the mapping function process.

As per claim 2, Olofsson teaches that the first order statistical parameter and the second-order statistical parameter are determined from a simulation of said wireless communication channel (column 5, lines 3-5).

As per claim 3, Olofsson teaches that the first order statistical parameter and the second-order statistical parameter are determined from a field measurement of said wireless communication channel (column 6, lines 49-51).

As per claim 4, Olofsson teaches the claimed invention including; selecting a communication parameter; arranging said modes in said lookup table based on said target value (column 4, line 66 - column 5, line 5).

As per claims 5-6, the communication parameter in Olofsson, which is statistical parameter, is inherently selected from the group consisting of bit error rate, packet error rate, data capacity, signal quality, spectral efficiency and throughput (see e.g., column 7, lines 18-29).

As per claim 7, Olofsson teaches to assign an adjustment to at least one of said first-order statistical parameter and said second-order statistical parameter based on a difference between said measured value and said target value (column 6, lines 57-61).

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As per claim 8, the quality parameter in Olofsson inherently comprises a short-term quality parameter.

As per claim 9, Olofsson also teaches that the second-order statistical parameter is a variance of a short term quality parameter (column 6, lines 51-52).

As per claim 10, Olofsson inherently teaches the variance is selected from a group consisting of temporal variance and frequency variance.

As per claim 11, Olofsson teaches that the short-term quality parameter is selected from the group consisting of signal-to-interference and noise ratio, signal to noise ratio and power level (see column 6, lines 41-42 and column 7, lines 5-7).

As per claim 12, Olofsson teaches that the first-order statistical parameter comprises a mean of said at least one quality parameter, see column 6, lines 51-52.

As per claim 13, Olofsson also teaches that the second-order statistical parameter comprises a variance of said at least one quality parameter (column 6, lines 51-52).

As per claims 14-16, Olofsson inherently teaches the claimed invention including transmitting the data at more than one frequency, in a multi-carrier scheme, wherein said variance is a frequency variance or a temporal variance.

As per claims 18-20, all the limitations in the claims have already been addressed in the rejection of claims 1-16. Claims 18-20 are therefore anticipated by Olofsson.

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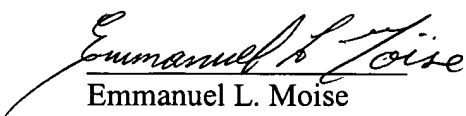
*Conclusion*

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel L. Moise whose telephone number is (703)305-9763. The examiner can normally be reached on Monday - Friday from 08:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady, can be reached on (703)305-9595. Any response to this action should be mailed to: Commissioner of Patents and Trademarks Washington, D.C. 20231, or faxed to: (703) 746-7239, (for formal communications intended for entry), Or: (703) 746-7240 (for informal or draft communications, please label "PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

  
Emmanuel L. Moise  
Primary Patent Examiner  
Art Unit 2133

December 6, 2003